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# CUMS model

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An abbreviated version of this protocol was published in Science Advances in Nov 2022

Stress-induced reduction of Na+/H+ exchanger isoform 1 promotes maladaptation of neuroplasticity and exacerbates depressive behaviors

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## Detailed protocol

The CUMS induced animal model of depression was constructed as follows. Male Wistar rats were housed individually and randomly exposed to a variable sequence of chronic unpredictable mild stressors once a day over a 5-week period. None of these stressors were administered successively. Stressors including food or water deprivation (24h), overnight illumination, cold on ice (5 min), wet bedding (24 h), titled cage (24h), tail clip (1 min), physical restraint (2h), foot shock (30min), noise (2h) and shaking (1h). One stressor was applied daily in a random sequence for five weeks. Behavioral tests were then used to assess depression-like behaviors in these animals.

**How to cite:**(Readers should cite both the Bio-protocol preprint and the original research article where this protocol was used)

1. Yu, S. , Li, Y. , Fan, C. and Wang, C. (2023). CUMS model. Bio-protocol Preprint. bio-protocol.org/prep2335.
2. Li, Y., Fan, C., Wang, C., Wang, L., Yi, Y., Mao, X., Chen, X., Lan, T., Wang, W. and Yu, S. Y.(2022). Stress-induced reduction of Na+/H+ exchanger isoform 1 promotes maladaptation of neuroplasticity and exacerbates depressive behaviors. Science Advances 8(45). DOI: 10.1126/sciadv.add7063